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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,723	03/27/2001	Ducan Cameron	PD-200314	1330

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EXAMINER

PHAM, HUNG Q

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,723

Applicant(s)

CAMERON ET AL.

Examiner

HUNG Q PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-20, drawn to a method and system for manipulating data structure by reconstructing a plurality of table from a summary table and modifying the summary table, classified in class 707, subclass 101.
 - II. Claims 21-25, drawn to a technique of generating a data structure, classified in class 707, subclass 102.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I-II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. For example, group I is drawn to a method and system for manipulating data structure by reconstructing a plurality of table from a summary table and modifying the summary table, group II is drawn to a technique of generating a data structure. See MPEP 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Applicants is reminded that upon the cancellation of claims to a non elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. During a telephone conversation with applicant's representative, Craig Plastrik, on 07/26/2004, a provisional election was made without traverse to prosecute the invention of group I, claims 1-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 21-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

6. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e) to a provisional application, 60/255,496, filed on 12/14/2000.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 1-2, 6-7, 11-12 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook [USP 6,668,262 B1].**

Regarding to claims 1, 6, 11 and 16, Cook teaches a method of modifying a database (Abstract). As shown in FIG. 1, system 20 includes a journal 30 as a *summary table* includes operation entries, and error detection values. Each operation entry 42 is data that identifies an operation suitable for modifying a

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database 32, such as, a write operation that writes data to the database 32, or a delete operation that deletes data from the database 32. Each error detection value is suitable for use in verifying whether the operation entry is valid (Col. 6, Lines 28-51). As seen, operation entries and error detection values is manipulation data of databases 32, or *a summarization of data of the plurality of tables*. The journal is saved in the archival storage 70 (FIG. 5, Col. 10, Lines 5-17). If the system is crashed or any other problem that may affect data, a database contains *a plurality of tables* such as database 32 in FIG. 1 is recovered based on the journal or *summary table* (FIG. 8, Col. 11, Line 25-Col. 12, Line 29). In short, the technique as discussed indicates the step of *reconstructing a plurality of tables from a summary table, the summary table containing a summarization of data of the plurality of tables*. As shown in FIG. 2, the computer system 20 receives instructions from a network device indicating to add information to the database 32 about that network device (Col. 7, Lines 45-57) as *selectively manipulating the data within the plurality of tables*. In step 104, the database manager enters an operation entry 42 in the journal 30 to form a sequence, which is to be used when applying the operation entries 42 to modify the entries 46, 48 in the database 32. For the example of a write operation, the database manager enters the write operation entry 42 in the journal 30, for example, as operation entry 42-2. In step 106, the database manager generates an error detection value 44 that can be used later to verify the validity of the entered operation entry 42. For example, if the database manager enters the write operation as operation entry 42-2, then the database manager generates an error detection value 44 based

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on the operation entry 42-2 and enters it as error detection value 44-2 in the journal 30 (Col. 7, Line 58-Col. 8, Line 7). As seen, journal 30 as *summary table* is updated or *modified based upon* the add information instruction as *manipulating step*. Cook does not explicitly teach the step of storing *the plurality of tables into memory*. However, as shown in FIG. 1, databases 32 are stored in memory 26. If the system is crashed or any other problem that may affect data, a database contains *a plurality of tables* such as database 32 in FIG. 1 is recovered as illustrated in Col. 11, Line 25-Col. 12, Line 29, and obviously, must be stored in memory 26. It would have been obvious for one of ordinary skill in the art at the time the invention was made to store a database contains *a plurality of tables* into memory for later use.

Regarding to claims 2, 7, 12 and 17 Cook teaches all the claimed subject matters as discussed in claims 1, 6, 11 and 16, Cook further discloses *the summary table in the reconstructing step is stored on a solid state disk* (Col. 6, Lines 25-27).

9. Claims 3-5, 8-10, 13-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook [USP 6,668,262 B1] in view of Applicant Admitted Prior Art [Background].

Regarding to claims 3, 8, 13 and 18, Cook teaches all the claimed subject matters as discussed in claims 1, 6, 11 and 16, but does not explicitly teach the

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step of *updating a transaction log that records modifications to the summary table, the transaction log being stored on a solid state disk*. As in the background of the invention's application, a transaction log for maintaining the transaction and being stored on a solid-state disk is illustrated. Cook also teaches a database maintains a transaction log, which can be used to reinitiate the interrupted transactions (Cook, Col. 1, Lines 39-43). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Cook method by including a transaction log to record the transaction to the journal in order to reinitiate the interrupted transactions.

Regarding to claims 4, 9, 14 and 19, Cook teaches all the claimed subject matters as discussed in claims 1, 6, 11 and 16, but does not teach *the data of the plurality of tables include communication connection information of a satellite communication system*. As in the background of the invention's application, a database for maintaining *communication connection information of a satellite communication system* is disclosed. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Cook method by using database 32 for storing satellite communication information in order to maintain a wireless network.

Regarding to claims 5, 10, 15 and 20, Cook teaches all the claimed subject matters as discussed in claims 1, 6, 11 and 16, but does not explicitly teach the step of *storing a portion of the plurality of tables in a RAID (Redundant*

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Array of Independent Disks) array. As in the background of the invention's application, a portion of the plurality of tables is stored in a RAID. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the Cook method by using RAID to store a portion of the plurality of tables in order to back up data.

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q PHAM whose telephone number is 703-605-4242. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Hung Pham
August 6, 2004


SHAHID ALAM
PRIMARY EXAMINER